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EXAMINER	
WACHSMAN, HAL D	
ART UNIT	**PAPER NUMBER**
2857	

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,410	HART, RONALD G.	
	Examiner	Art Unit	
	Hal D Wachsman	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 May 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7-3-03, 9-8-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The Preliminary Amendment filed 5-28-04 is improper under 37 C.F.R. 1.121 because each section of the amendment does not begin on a separate sheet (page 2 has both the IN THE FIGURES section and the IN THE SPECIFICATIONS section) and the new drawings filed to replace Figures 1-30b are not identified in the top margin as "Replacement Sheet". Also there is no explanation of any changes that may have been made in either the IN THE FIGURES section or in the REMARKS section. Appropriate correction is required.

2. The drawings are objected to because they are improper under 37 C.F.R. 1.121 as described in paragraph 1 above. In addition, page 7, paragraph 0059, of the specification states "Referring to FIG. 1, there is illustrated a diagram of an electricity distribution system 10. The electricity distribution system 10 represents a **typical** distribution system....". Consequently, as it is clear that this was known in the prior art, Figure 1 needs to be labeled as "Prior Art" with this change also reflected in the description for Figure 1 in the Brief Description of the Drawings. Appropriate correction is required.

3. The Abstract is objected to because it is greater than 150 words and what is written in the Abstract is not directed towards the invention that is now being claimed in this continuation case. Appropriate correction is required.

4. The Related Applications section on page 1 of the specification does not provide the current status of U.S. application serial no. 10/068,431 (i.e. is now U.S. patent no. 6,694,270). In addition, this section indicates that U.S. application serial no. 08/798,923 (08/798,723 ?) incorporated by reference 08/798,724,

however this is an improper incorporation by reference because essential material may not be incorporated by reference to a U.S. patent or application which itself incorporates essential material. Also, line 7, of this paragraph 0001, refers to "08/798,923" but was it actually "08/798,723 that was intended here ? Appropriate correction is required.

5. On page 13, paragraph 0076, "FDDI" has not been defined. Appropriate correction is required.

6. The listing of references in the specification (see pages 18, 19, 22, 26, of the specification) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

7. The tables on pages 27-54, 56-74 and 77, are objected to under 37 C.F.R. 1.52 because the lettering is of insufficient size and there is insufficient margins at the bottom of those pages. Appropriate correction is required.

8. Claim 38 is objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claim 38, lines 2-3, cite "said network" however the antecedent basis is "digital network". Claim 38, line 3, cites "said devices" however the antecedent basis is singular. The last line of claim 38 states "...another of said plurality of devices" however was it "...another one of said plurality of devices"

that was intended here ? The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 36 and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 36 contains the negative limitation "....without substantially degrading real time communications among any at least two of said device for monitoring and reporting at least one parameter of an electric circuit" which is not supported by the specification. Claim 38 contains the negative limitation "...without any one of said plurality of devices waiting for another of said plurality of devices" which is not supported by the specification.

Double Patenting

11. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

12. Claims 1-42 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-42 respectively of copending Application No. 10/613,701 (see claims in PGPubs US 20040133367 A1). This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 2, 4, 13-18, 20, 23-25, 29, 31-33, 36-38, 40 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by McRae (5,859,596).

As per claim 1, McRae (Abstract, col. 3 lines 54-63, col. 5 lines 24-27) discloses "at least one sensor coupled with said electric circuit....and generate at least one analog signal indicative thereof". McRae (figure 3 - block 70, col. 5 lines 18-27) discloses "an analog to digital converter coupled with said at least one sensor...to at least one digital signal representative of said at least one analog signal". McRae (Abstract, figure 3 – block 46, col. 5 lines 21-27, 45-50) discloses "a processor coupled with said analog to digital converter...to generate at least one computed value from said at least one digital signal". McRae (col. 4 lines 31-36) discloses "a local display coupled with said processor and operative to report said at least one computed value". McRae (Abstract, figure 3 – block 47, col. 4 lines 15-19, 36-39) discloses "a communications port coupled with said processor and a digital network...of said at least one computed value onto said digital network". McRae (Abstract, figure 6 (summing of phase acquired data), col. 11 lines 57-60, col. 12 lines 9, 10, 41) discloses "a summing module coupled with said digital network...and further sum said at least one computed value to a second value".

As per claim 2, McRae (col. 3 lines 54-57, col. 5 lines 25-31) discloses the feature of this claim.

As per claim 4, McRae (col. 4 lines 31-43) discloses the feature of this claim.

As per claim 13, McRae (see at least abstract) discloses the feature of this claim.

As per claim 14, McRae (see at least abstract) discloses the feature of this claim.

As per claim 15, McRae (col. 11 lines 57-60) discloses the feature of this claim.

As per claim 16, McRae (Abstract, col. 3 lines 59-63) discloses the feature of this claim.

As per claim 17, McRae (Abstract, col. 3, lines 64-67 (bi-directional communications between the components enabling connections between the devices)) discloses the feature of this claim.

As per claim 18, McRae (col. 3 lines 59-61, col. 4 lines 32-41) discloses the feature of this claim.

As per claim 20, McRae (Abstract, figure 3 blocks 46 and 47) discloses the feature of this claim.

As per claim 23, McRae (Abstract, col. 4 lines 32-41) discloses the feature of this claim.

As per claim 24, McRae (Abstract, figure 3 blocks 46 and 47, col. 4 lines 32-41) discloses the feature of this claim.

As per claim 25, McRae (see at least abstract) discloses the feature of this claim.

As per claim 29, McRae (Abstract, col. 5 lines 50-53) discloses the feature of this claim.

As per claim 31, McRae (Abstract, col. 5 lines 50-53) discloses the feature of this claim.

As per claim 32, McRae (see at least abstract (every monitoring device has a communications port)) discloses the feature of this claim.

As per claim 33, McRae (see at least abstract) discloses the feature of this claim.

As per claim 36, McRae (Abstract, col. 3 lines 64-67) discloses the feature of this claim.

As per claim 37, McRae (see at least abstract) discloses the feature of this claim.

As per claim 38, McRae (Abstract, col. 4 lines 32-43) discloses the feature of this claim.

As per claim 40, McRae (see at least abstract) discloses the feature of this claim.

As per claim 42, McRae (Abstract, figure 6 (summing of phase acquired data), col. 11 lines 57-60, col. 12 lines 9, 10, 41) discloses the feature of this claim.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Chow (5,453,903).

As per claim 3, Chow (figure 1 – blocks 114 and 116) teaches first and second analog to digital converters with the A/D converter in block 116 converting a voltage analog signal to at least one digital sample and the A/D converter in block 114 converting a current analog signal to at least one digital sample. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Chow to the invention of McRae as specified above because it would enable the parallel sampling and follow-up processing of voltage and current on each of the phases which would improve the processing speed for obtaining the desired computed values.

17. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of "Global Positioning System Applications at the Bonneville Power Administration" (Street et al.).

As per claim 5, Street et al. (page 247, section 5.1) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

As per claim 6, Street et al. (page 247, section 5.1) teach the feature of this claim. It would have been obvious to a person of ordinary skill in

the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

As per claim 7, Street et al. (pages 244-245, section 3, page 246, section 4.2) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 247, section 5.1) the use of GPS provides precise synchronization with UTC time allowing accurate phase angle determination over a geographical area of any size.

As per claim 8, Street et al. (pages 244-245, section 3, page 245, see figure 2) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

As per claim 9, Street et al. (pages 244-245, section 3, page 245, see figure 2) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because

as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

As per claim 10, Street et al. (pages 244-245, section 3, page 247, section 5.1) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

As per claim 11, Street et al. (pages 244-245, section 3) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Street et al. to the invention of McRae as specified above because as taught by Street et al. (page 245, section 3) precise time derived by a GPS timing receiver facilitates accurately time tagging power system events such as fault transient arrival time or power frequency zero-crossing times.

18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of "Global Positioning System Applications at the Bonneville Power Administration" (Street et al.) as applied to claim 5 above, and further in view of Adamiak et al. (5,809,045).

As per claim 12, Adamiak et al. (col. 5 lines 45-67, col. 6 lines 1-9) teach the feature of this claim. It would have been obvious to a person of

ordinary skill in the art at the time the invention was made to apply the techniques of Adamiak et al. to the inventions of McRae and Street et al. as specified above because as taught by Adamiak et al. (col. 5 lines 45-47) data sampling can be synchronized to the power system frequency to eliminate the error effects of asynchronous sampling.

19. Claims 19, 30, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of the Applicant's Admissions of the prior art.

As per claim 19, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae as specified above because Ethernet is a notoriously well known local area network industry standard first developed by Xerox in 1976, with features such as 100 Mbit/s operation transmission speed making it desirable to use.

As per claim 30, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae as specified above because Ethernet is a notoriously well known local area network industry standard first developed by Xerox in 1976,

with features such as 100 Mbit/s operation transmission speed making it desirable to use.

As per claim 34, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae as specified above because RS485 is an industry standard communications port that can be used for interfacing multiple devices to a shared bus with the capability of providing up to 32 transmitters and receivers networked on the same data line.

As per claim 35, McRae (see at least abstract) discloses the use of an RS232 port but does not clearly disclose the use of an RS485 port. However, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Applicant's Admissions of the prior art to the invention of McRae as specified above because RS485 is an industry standard communications port that can be used for interfacing multiple devices to a shared bus with the capability of providing up to 32 transmitters and receivers networked on the same data line.

20. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Murphy et al. (5,768,148).

As per claim 21, Murphy et al. (figure 3 – blocks 146 and 150, col. 2 lines 22-32) teach the feature of this claim. It would have been obvious to a

person of ordinary skill in the art at the time the invention was made to apply the techniques of Murphy et al. to the invention of McRae as specified above because as taught by Murphy et al. (col. 2 lines 22-28) the Ethernet TCP/IP protocol is a well known standard which would allow a user to use an existing LAN which would significantly reduce installation costs since much of the system wiring may already be in place.

21. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Multichannel Continuous Harmonic Analysis in Real-Time (Miller et al.).

As per claim 22, Miller et al. (page 1814 – An Overview of Chart and Remote Data Conversion Modules) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Miller et al. to the invention of McRae as specified above because fiber optics is compatible with power systems and is unaffected by electric fields.

22. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Demeyer (4,717,985).

As per claim 26, Demeyer (col. 4 lines 19-27) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Demeyer to the invention of McRae as specified above because as taught by Demeyer (col. 4 lines 16-18) it would be of use in providing ground protection.

As per claim 27, Demeyer (Abstract, col. 4 lines 11-14, 21-25) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Demeyer to the invention of McRae as specified above because as taught by Demeyer (col. 4 lines 16-18) it would be of use in providing ground protection.

As per claim 28, Demeyer (see at least abstract) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Demeyer to the invention of McRae as specified above because as taught by Demeyer (col. 1 lines 9-13) the trip units comprising long delay and possibly short delay tripping functions can provide protection to an item of equipment, such as a motor which overheats when it is supplied by an overload current.

23. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Tracy et al. (6,369,719).

As per claim 39, Tracy et al. (Abstract, figure 1, col. 2 lines 36-39, 55-60) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Tracy et al. to the invention of McRae as specified above because as taught by Tracy et al. (col. 1 lines 60-64) there was a need for a system that is capable of monitoring utility usage and other information on varying reading schedules and different levels of frequency of data interrogation (profiling), and is capable of wirelessly transmitting digital data to a desired remote device.

24. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,589,596) in view of Adamiak et al. (5,809,045).

As per claim 41, Adamiak et al. (col. 4 lines 39, 40, 48-50, 58-61, col. 21 lines 66, 67, col. 22 lines 1-12) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Adamiak et al. to the invention of McRae as specified above because as taught by Adamiak et al. (col. 4 lines 48-50) a fault is indicated by the detection of a disturbance and by the sum of the current phasors falling outside of an elliptical restraint region.

25. The following references are cited as being art of general interest: Begin et al. (4,989,155) which disclose an intelligent power monitor with a summing node for a network output, Hart et al. (5,721,689) which disclose phasor estimation and frequency tracking in digital protection systems and Dowling et al. (6,308,140) which disclose a multiplexer coupled between sensors and an analog to digital converter.

26. No claims are allowed.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hal D Wachsman
Primary Examiner
Art Unit 2857

HW
August 7, 2004